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## What is claimed is:

- 1. An activated semi-crystalline, largely isotropic, coal-based carbon foam produced from particulate coal exhibiting a free swell index of between about 3.5 and about 5.0 and of a small diameter, having a density of between about 0.1 and about 0.8 g/cm<sup>3</sup> and an overall surface area of between about 10 m<sup>2</sup>/g and about 25 m<sup>2</sup>/g.
- 2. The activated coal-based carbon foam of claim 1 having an overall surface area of between about 15  $m^2/g$  and about 20  $m^2/g$ .
- 3. The activated coal-based carbon foam of claim 1 wherein said coal exhibits a free swell index of between about 3.75 and about 4.5.
- 4. The activated coal-based carbon foam of claim 3 having an overall surface area of between about 15  $m^2/g$  and about 20  $m^2/g$ .
- 5. The activated coal-based carbon foam of claim 1 wherein said coal-based carbon foam has been calcined.

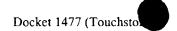
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- 6. The activated coal-based carbon foam of claim 1 wherein said coal-based carbon foam has been graphitized.
- 7. A monolithic activated carbon filter element comprising an activated semi-crystalline, largely isotropic, coal-based carbon foam produced from particulate coal exhibiting a free swell index of between about 3.5 and about 5.0 and of a small diameter, having a density of between about 0.1 and about 0.8 g/cm<sup>3</sup> and an overall surface area of between about 10 m<sup>2</sup>/g and about 25 m<sup>2</sup>/g.
  - 8. The monolithic activated carbon filter element of claim 7 having an overall surface area of between about 15  $m^2/g$  and about 20  $m^2/g$ .
  - 9. The monolithic activated carbon filter element of claim 7 wherein said coal exhibits a free swell index of between about 3.75 and about 4.5.
  - 10. The monolithic activated carbon filter element of claim 9 having an overall surface area of between about 15  $m^2/g$  and about 20  $m^2/g$ .



- 11. The monolithic activated carbon filter element of claim 7 wherein said coal-based carbon foam has been calcined.
- The monolithic activated carbon filter element of claim 7
  wherein said coal-based carbon foam has been graphitized.

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